

MANAGING BROOMSEDGE IN PASTURES

Monroe Rasnake
Extension Agronomist
University of Kentucky

Broomsedge, broomgrass, sagegrass (*Andropogon Virginiana*) is a perennial, warm season grass native to Kentucky. It is well adapted to the soils and climate of this area. Add to this the fact that it is relatively unpalatable to livestock and it is easy to understand why it is common in Kentucky pasture fields. The question then becomes: why is it a problem in some fields and not in others?

Everyone seems to know what the problem is, but they don't all agree. Some will swear it is a soil pH problem and can show soil test results to support that idea. However; summaries of soil test results from all forage fields tested by the UK soil test labs in 1999-2001 showed 54 percent to have pH levels below 6.4. So, the odds are good that the pH of any pasture field picked at random will be below the recommended level of 6.4.

Others have blamed the problem on low soil test phosphorus levels. Again, the majority of pasture fields infested with broomsedge are likely to be low in phosphorus. The soil test summary shows 53 percent of forage fields in Kentucky to be medium or lower in phosphorus – 28 percent are low or very low.

Low potash levels is another possible contributing factor since almost two-thirds of forage soil samples were medium to low in soil test potassium. The fact that so many of our pasture fields are low in fertility could very well relate to the problem with weeds such as broomsedge.

Poor management in other areas such as overgrazing and not maintaining legumes in pastures also contributes to the problem with broomsedge. Weeds are quick to take advantage of any opening or weakness in a forage stand and, once established, are difficult to get rid of. In this presentation we will discuss two test demonstrations conducted in West Kentucky to reduce broomsedge problems in pastures.

The first test demonstration was conducted in Crittenden County on a broomsedge infested field that had a good stand of tall fescue, but no legumes. Soil test results showed this field to be in good shape fertility-wise. The field was renovated with red clover and evaluated over a two-year period. During this time, the field was not grazed but managed for hay production. At the end of two years, broomsedge infestation was significantly reduced.

The second test/demonstration was conducted in Marshall County. This site had a good stand of tall fescue on a Grenada soil. It was also heavily infested with broomsedge and had very few legumes. In addition to a check plot that received no added nutrients, treatments consisted of poultry litter and lime, fertilizer (phosphate and potash) and lime, poultry litter alone, and a combination of poultry litter, lime and fertilizer. These treatments were applied in the fall and then clover was seeded on parts of each plot in the following spring. The stands of forage and broomsedge were evaluated one year after the first treatments were applied.

All the treatments resulted in significantly less broomsedge and improved tall fescue vigor as compared to the check treatment. The combination treatment consisting of poultry litter, fertilizer, and lime looked best, but there was not much difference compared to the poultry litter and lime or fertilizer and lime. Good stands of ladino clover were present in all the treated plot areas where clover had been seeded. However, there were no apparent differences in broomsedge stands between the clover and no clover areas within treatments. The clover had only been established for one growing season and may have more impact in future years.

The results of this test show that broomsedge competition in tall fescue pastures can be reduced by proper fertilization including the use of poultry litter. It should also result in improved forage productivity and quality – especially when legumes are included. Good forage management, including rotational grazing, is needed to maintain vigor of forage plants and help them compete with weeds.